

Comments on the ROD and the Scope of Work Taracorp Superfund Site, Granite City, Illinois

1. Additional deep monitoring wells

The requirement that four new wells be installed in the deeper portion of the upper aquifer to monitor ground water conditions upgradient and downgradient of the waste pile suggests that EPA intends that these wells be used in a long term monitoring plan. At present, there is no evidence to suggest that the deeper portions of this aquifer are contaminated; therefore, implementation of a comprehensive monitoring program is premature. An investigatory well should be installed and sampled before a monitoring program is required. The possibility that installation of deep wells will result in inadvertent contamination of the deeper portion of the aquifer must be considered in deciding whether a monitoring system is necessary. Expansion of the Taracorp waste pile will have a significant effect on the local hydrology, and may also restrict the placement of new monitoring wells. Therefore, the final design of the monitoring system (if a system is required) should be developed after the expansion is complete and effects on the local hydrology have been evaluated.

2. Monitoring of ground water for organic contaminants

There is no evidence that organic contaminants are associated with the Taracorp waste pile, and no justification for adding them to the list of analytes has been provided. Experience suggests that the probability of false positive results is quite high in sampling and analyzing for some organic contaminants. The cost of these analyses can also be considerable. In the absence of any evidence of the presence of these organic contaminants, the list of parameters to be monitored should be restricted to gross indicators and those contaminants previously detected in the waste materials or ground water.

3. Installation of a clay liner under newly-created portions of the Taracorp pile, preceded by removal of Area 1 soils with lead concentrations in excess of 1000 ppm

This liner should not be necessary; nor should excavation of the Area I soils that will be covered by the expanded pile. The expanded waste pile will be constructed with a cap designed to minimize infiltration, and most of the material placed in the expanded



pile will be soil excavated from the residential areas. If this material is placed and capped correctly, the amount of leachate generated in the expanded pile will be minimal. Thus, there is also no need to excavate the surface soils in the portions of Area 1 that will be covered by the expanded pile.

4. Toxicity testing of materials to be added to the Taracorp pile

Toxicity testing of materials to be added to the pile is not warranted by the evidence collected in the RI/FS process. The majority of the material to be added to the pile is expected to be soil from the residential areas. As reported in the RI, a soil sample containing one of the highest concentrations of lead (3110 ppm) was subjected to the EP toxicity test, and passed. Even if some portion of the material added to the pile releases lead at a rate greater than allowed by the EP toxicity test, the leachate (if any) generated from this portion would be diluted by leachate from the less contaminated portions.

5. Air monitoring: PM10 and lead

After remediation, there will not be any uncontrolled source of contaminated particulates at the Taracorp site. Taracorp is not operating the smelter, the affected surface soils will have been replaced with clean soil, and the cap will prevent generation of contaminated particles from the waste pile. Given the industrial nature of the surrounding area, it is possible that established levels of airborne contaminants will be exceeded due to activities that are in no way associated with the Taracorp site. It is not reasonable to require the PRPs to perform this air monitoring when the only likely sources of contaminants are not related to their activities.

6. Expansion of the battery case material inspection area

The area to be inspected for battery case material should not be expanded beyond Venice and Eagle Park Acres to all nearby communities in the absence of evidence that the Taracorp site was the source of the material.

7. Cleanup of case materials and surrounding soils to 500 ppm

The basis for the 500 ppm cleanup level has not been scientifically established in the administrative record. A decision on criteria for soil cleanup cannot be made until additional scientific studies are conducted.

8. Maximum required depth of remediation

A maximum required depth of remediation should be established for the

residential soils. This maximum depth should be selected after consideration of the health risks posed by the presence of lead at various depths. Although lead in surface soils may contribute to health risks through ingestion and inhalation of soil and household dust particles, children are unlikely to be exposed to contamination at deeper levels in the soil column. The uncertainty associated with the maximum depth of sampling and remediation makes it impossible to develop reasonably accurate estimates of the total costs of implementation. Therefore, the cost-effectiveness of the various alternatives cannot be compared until the required depth of excavation has been established.

9. Responsibility for sampling and removing soils that are currently capped by asphalt or other barriers if these soils become exposed in the future

There is no evidence that soils that are currently capped by pavement or buildings will pose a public health threat if they are uncapped in the future. The soil depth of concern will be defined during implementation of the remedial action; until this has been determined, sampling of soils exposed by excavation or deterioration of pavements should not be required. In the future, the nature and purpose of each excavation, paving, or construction activity will determine the potential exposure to soils that are currently capped and should also determine the need for sampling and soil removal.

10. EPA's Application of the Integrated Uptake/Biokinetic MODEL

EPA has applied the Integrated Uptake/Biokinetic (IU/BK) Model, in the form of the LEAD program, to predict the mean blood lead level and distribution among children ages 0-6 years who are exposed to soil and dust levels of 500 ppm or 1000 ppm at the NL/Taracorp Site. The results of this model may be taken into account in setting clean-up levels, provided that (1) site-specific and up-to-date parameters are used in the model, and (2) a sound, scientific basis is developed for the target blood lead level, the target population, and the percentage of the population to be protected. EPA has not met these criteria in its application of the IU/BK model to set clean-up levels at the Taracorp site.

A. Inadequate Justification for the 15 $\mu\text{g}/\text{dL}$ Target Blood Lead Level for Young Children

In its application of the IU/BK model to set soil clean-up levels at the NL/Taracorp site, EPA has inadequately justified its selection of 15 $\mu\text{g}/\text{dL}$ as the target blood lead level for young children. The selection appears to be based primarily upon neurobehavioral effects in young children. EPA states that

Needleman (1988) "emphasizes that careful epidemiologic studies, which have controlled for the important confounders, have set the level for these effects at 10-15 micrograms per deciliter lead in blood". It is important to note, however, that the recent epidemiologic studies have suggested that neurobehavioral effects have been associated only with prenatal blood lead levels (i.e. maternal blood lead levels) in the range of 15 $\mu\text{g}/\text{dL}$, while this association at low blood lead levels has not been established for postnatal exposure.

B. Use of The LEAD Program in Which a Computational Error Has Been Noted

The LEAD computer program used by EPA to evaluate the effects of possible clean-up actions at this site contains an erroneous formula. For any specified exposure scenario, the program overestimates the actual percentage of the population that would be expected to have high blood lead levels. Therefore, EPA has underestimated the true proportion of the population that would be protected by its proposed remedial action. See the attached comments submitted to EPA by Gradient Corporation.

11. Blood Lead Study

The consent decree indicates that blood lead sampling should be performed to "provide the community with current data on potential acute health effects associated with site contamination". We are in agreement with the utility of performing blood lead sampling and analysis to assess current lead uptake in residents at the site. It is essential, however, that the blood lead sampling be performed in conjunction with soil sampling in order that the association between blood lead and soil lead contamination can be established. Knowledge of this association is necessary in order to determine the appropriate site-specific clean-up criteria and to assess the impact that any remediation would have upon blood lead levels. In order to assure that the blood lead/soil lead association is firmly established, it is important that the overall blood lead study involve a representative random sample of the population, of adequate size to characterize that geometric mean and range of blood lead levels and the degree of soil lead contamination in the area. By measuring a random sample, observations about the mean and distribution of blood lead levels and soil levels can be extrapolated to all individuals in the study area.